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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,865	12/04/2001	Timothy M. Schaefer	51185-236984	8893

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EXAMINER

GLENN, KIMBERLY E

ART UNIT PAPER NUMBER

2817

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/006,865

Applicant(s)

SCHAEFER, TIMOTHY M.

Examiner

Kimberly E Glenn

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-26 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-13,20-22 and 27 is/are rejected.
- 7) ☒ Claim(s) 3,14-19 and 23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

Claim 16 objected to because of the following informalities: In line 3 of the claim "contract" should be changed to --contact--. ~~Appropriate correction is required.~~

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "the first and second support arm " in lines 2 and 4 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

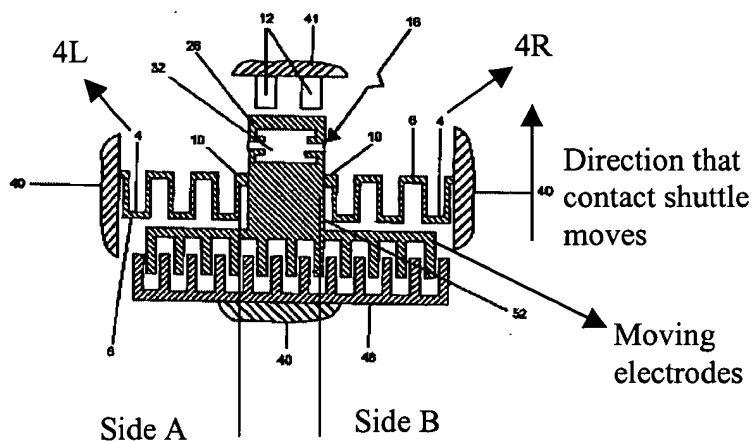
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Claims 1, 2, 4-13, 20-22 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang US Pat.6, 506,989.

Wang disclose a MEMS switch comprising: a substrate 8 defining a plane; first and second switch contacts 12; ~~contact shuttle 28 that is movable in a linear path between first and~~ second switch state positions with respect to the switch contacts 12, spring biasing 4 the contact shuttle to the first switch state position; plurality of moving electrodes coupled to the contact shuttle 28 and having generally planar major surfaces perpendicular to the plane of the substrate; and plurality of fixed electrodes 48, each located interleaved with and adjacent to one of the moving electrodes, having generally planar major surfaces perpendicular to the plane of the substrate, wherein in response to the application of an electric actuation voltage, electrostatic forces develop between the moving and fixed electrodes causing the moving electrodes to move along an axis parallel to the plane of the substrate and perpendicular to the planar major surfaces of the electrodes, thereby forcing the contact shuttle to move to the second switch state position along the axis parallel to the plane of the substrate and perpendicular to the planar major surfaces of the electrodes. The contact shuttle 28 is electrically isolated from the moving and fixed electrodes 48. The spring includes: a relatively rigid member 52 connected to the contact shuttle 28; and at least one resilient member 4 connected to the relatively rigid member 52. The moving electrodes are connected to and extend from the relatively rigid member 52 of the spring. The moving electrodes include moving electrodes connected to and extending from opposite sides (Side A and Side B) of the relatively rigid member. The spring includes a plurality of resilient members (4L and 4R) connected to and extending from opposite sides of the relatively rigid member 52. The fixed electrodes 48 and moving electrodes have major surfaces facing one

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another. The spring includes: a relatively rigid member 52 connected to the contact shuttle 28 and movable in the linear path; and at least two resilient members 4L and 4R connected to and extending from the rigid member 52. The resilient members 4 are parallel to the plane of the substrate. The moving electrodes are connected to and extend from opposite sides of the rigid member. The moving electrodes include at least two electrodes on both opposite sides of the rigid member. The spring is a parallelogram structure. The switch further includes an oxide insulator 32 for electrically isolating the contact shuttle 28 and the driven member 52. (Column 5 line 64 through column 6 line 54)



Allowable Subject Matter

Claims 3,14, 16-19 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 24-26 are allowed.

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The following is a statement of reasons for the indication of allowable subject matter: With regards to claim 3, the prior art of record does not disclose or fairly teach a native oxide between the base and metal contact member. With regards to claim 14, the prior art of record does not disclose or fairly teach first and second side members or first and second support arm. With regards to claim 16, the prior art of record does not disclose or fairly teach a concave gap that opens toward the contact shuttle. With regards to claim 24, the prior art of record does not disclose or fairly teach a convex contact shuttle sized between and shaped to extend into the concave gap.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Robertson US 2002/0190267, Kong et al US Pat. 6,218,911 and Dhuler et al US Pat. 6,428,173.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E Glenn whose telephone number is (703) 306-5942. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

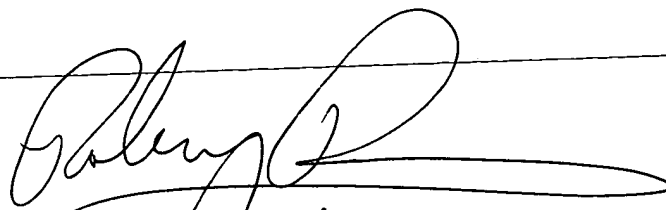
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Kimberly E Glenn
Examiner
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keg
March 18, 2003

A handwritten signature in black ink, appearing to read "Robert Pascal", is written over a horizontal line.

Robert Pascal
Supervisor Patent Examiner
Technology Center 2800